What is claimed is:

1. An arrangement of a local area network in a customer's premise comprising a gateway through which the local area network is connected to an outside network via an xDSL subscriber line, in which local area network band division filters are connected to sockets of the local area network for separating voice band signals and traffic of the local area network both the voice band signals and the traffic distributed by the local area network, and for connecting voice band terminals and network stations to the local area network.

2. An arrangement according to claim **1**, wherein transmission lines of the local area network are formed from telephone lines in the customer's premise.

3. An arrangement according to claim **2**, wherein the local area network is a HomePNA network.

4. An arrangement according to claim **2**, wherein the xDSL subscriber line is an ADSL line.

5. An arrangement according to claim **4**, wherein the gateway is an ADSL terminal.

6. An arrangement according to claim **5**, wherein the local area network is a HomePNA network.

7. An arrangement according to claim **1**, wherein the band division filter comprises two parts, the first part being formed from a low-pass filter between the voice band terminal and the local area network, and the second part being formed from a band stop filter between the network station and the local area network.

8. An arrangement according to claim **7**, wherein the band stop filter comprises a transformer between wires of the pair line coming from the local area network, and a resistor and capacitor connected to one of said wires parallel with a first winding of the transformer, and furthermore another resistor and capacitor connected to the other wire parallel with a second winding of the transformer, said components forming a filtering element and connecting the network station to the local area network.

9. An arrangement according to claim **8**, wherein at least two filtering elements are connected in series.

10. An arrangement according to claim **8**, wherein the filtering element further comprises a transversal element between the lines.

11. An arrangement according to claim **9**, wherein the arrangement further comprises at least one transversal element between the lines.

12. An arrangement according to claim **3**, wherein the band division filter comprises two parts, the first part being formed from a low-pass filter between the voice band terminal and the local area network, and the second part being formed from a band stop filter between the network station and the local area network.

13. An arrangement according to claim **12**, wherein the band stop filter comprises a transformer between wires of the pair line coming from the local area network, and a resistor and capacitor connected to one of said wires parallel with a first winding of the transformer, and furthermore another resistor and capacitor connected to the other wire parallel with a second winding of the transformer, said components forming a filtering element and connecting the network station to the local area network.

14. An arrangement according to claim **13**, wherein at least two filtering elements are connected in series.

15. An arrangement according to claim **13**, wherein the filtering element further comprises a transversal element between the lines.

16. An arrangement according to claim **14**, wherein the arrangement further comprises at least one transversal element between the lines.

17. An arrangement according to claim **5**, wherein the band division filter comprises two parts, the first part being formed from a low-pass filter between the voice band terminal and the local area network, and the second part being formed from a band stop filter between the network station and the local area network.

18. An arrangement according to claim **17**, wherein the band stop filter comprises a transformer between wires of the pair line coming from the local area network, and a resistor and capacitor connected to one of said wires parallel with a first winding of the transformer, and furthermore another resistor and capacitor connected to the other wire parallel with a second winding of the transformer, said components forming a filtering element and connecting the network station to the local area.

19. An arrangement according to claim **18**, wherein at least two filtering elements are connected in series.

20. An arrangement according to claim **18**, wherein the filtering element further comprises a transversal element between the lines.

21. An arrangement according to claim **19**, wherein the arrangement further comprises at least one transversal element between the lines.

22. An arrangement according to claim **6**, wherein the band division filter comprises two parts, the first part being formed from a low-pass filter between the voice band terminal and the local area network, and the second part being formed from a band stop filter between the network station and the local area network.

23. An arrangement according to claim **22**, wherein the band stop filter comprises a transformer between wires of the pair line coming from the local area network, and a resistor and capacitor connected to one of said wires parallel with a first winding of the transformer, and furthermore another resistor and capacitor connected to the other wire parallel with a second winding of the transformer, said components forming a filtering element and connecting the network station to the local area network.

24. An arrangement according to claim **23**, wherein at least two filtering elements are connected in series.

25. An arrangement according to claim **23**, wherein the filtering element further comprises a transversal element between the lines.

26. An arrangement according to claim **24**, wherein the arrangement further comprises at least one transversal element between the lines.

27. A filter for a local area network in a customer's premise wherein the filter is connected to a socket of the local area network for separating voice band signals and traffic of the local area network both the voice band signals and the traffic distributed by the local area network, and for connecting voice band terminals and network stations to the local area network.

28. A filter according to claim **27**, wherein the band division filter comprises two parts, the first part being formed from a low-pass filter between the voice band terminal and the local area network, and the second part being formed from a band stop filter between the network station and the local area network.

29. A filter according to claim **28**, wherein the band stop filter comprises a transformer between wires of the pair line coming from the local area network, and a resistor and capacitor connected to one of said lines parallel with a first winding of the transformer, and furthermore another resistor and capacitor connected to the other line parallel with a second winding of the

transformer, said components forming a filtering element and connecting the network station to the local area network.

30. A filter according to claim **29**, wherein at least two filtering elements are connected in series.

31. A filter according to claim **29**, wherein the filtering element further comprises a transversal element between the lines.

32. A filter according to claim **30**, wherein the filter further comprises at least one transversal element between the lines.